



John F. Kennedy Space Center

EXPENDABLE LAUNCH VEHICLES

NASA Launch Services

**MIDEX Pre-Proposal Conference
August 10,2001**

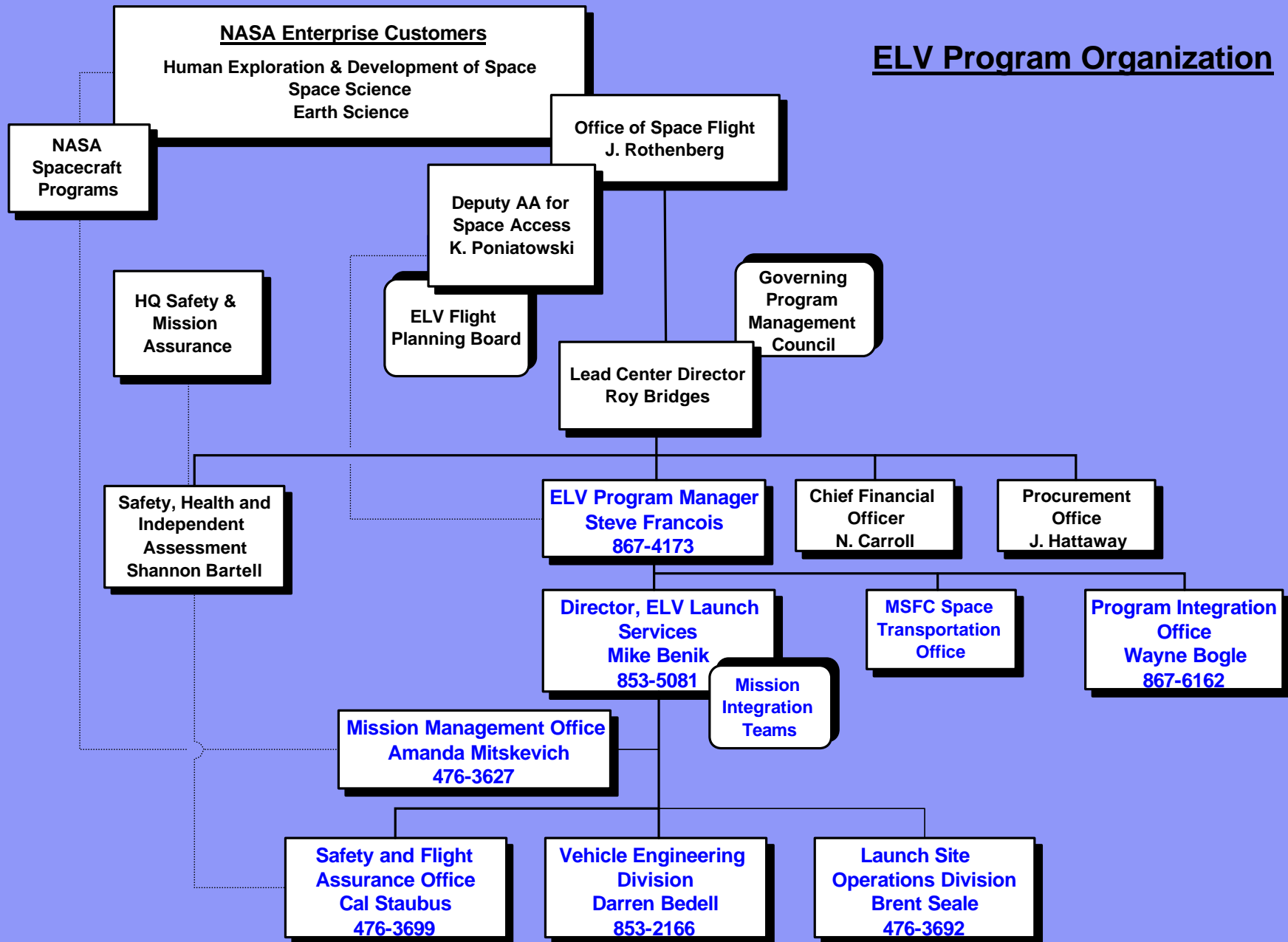
**John Schafer
NASA/KSC/ ELV Launch Services
Mission Management Office**



NASA ELV Program Goals

- Ensure launch service contracts are in place to support approved NASA missions
- Provide Lead Center Program Management (budget, schedule, and technical) for NASA missions utilizing ELV Launch Services
- Provide a successful launch rate at or above 95 percent
- Procure commercial launch services consistent with mission criticality and procurement regulations
- Serve as Agency focal point and repository for ELV databases and advanced mission analyses
- Implement partnerships with other NASA Centers, academia, and industry to create new technological capabilities for lower costs and more reliable access to space

ELV Program Organization

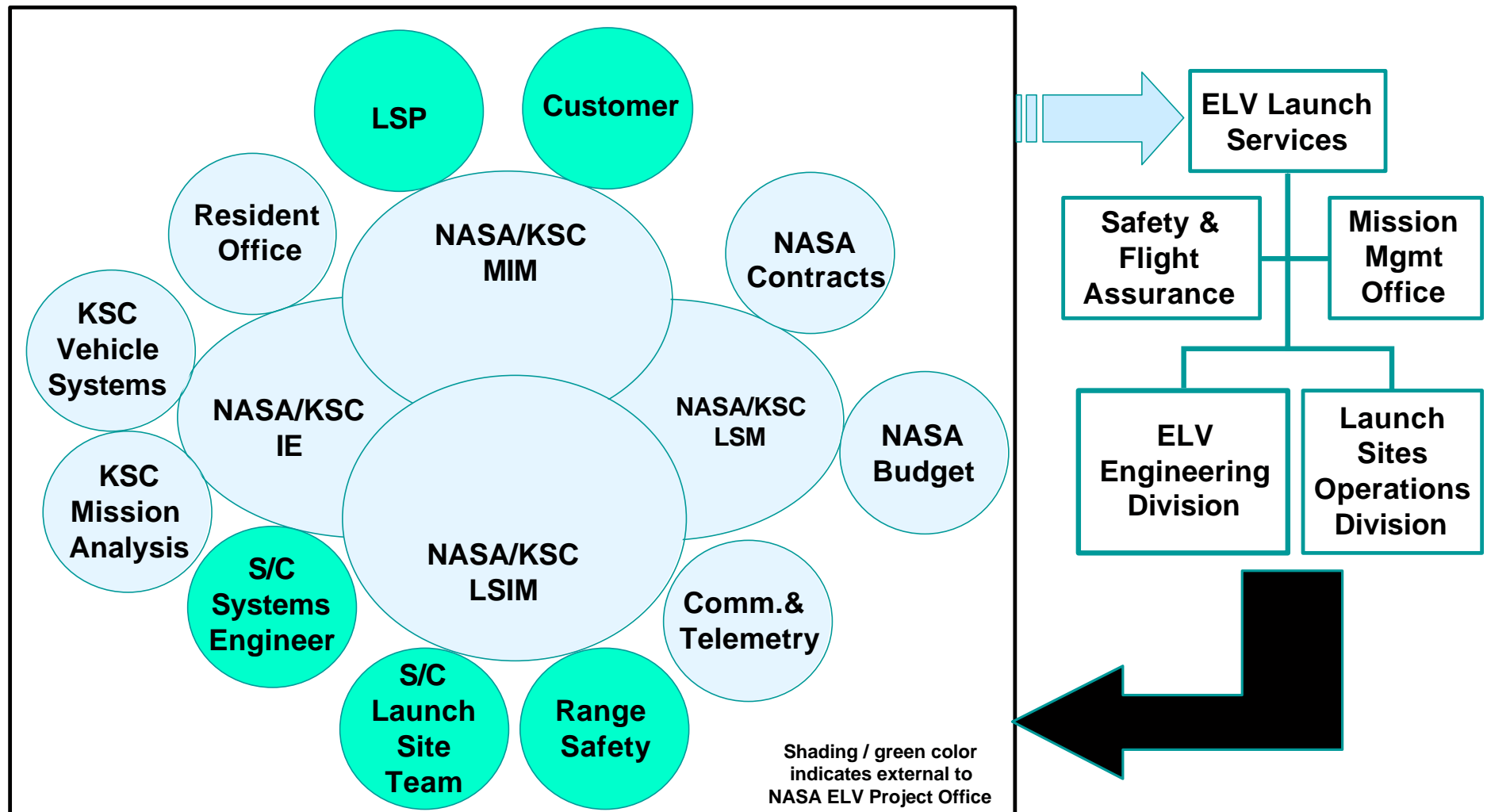




Mission Integration Team (MIT)

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Advance Mission Planning/Design

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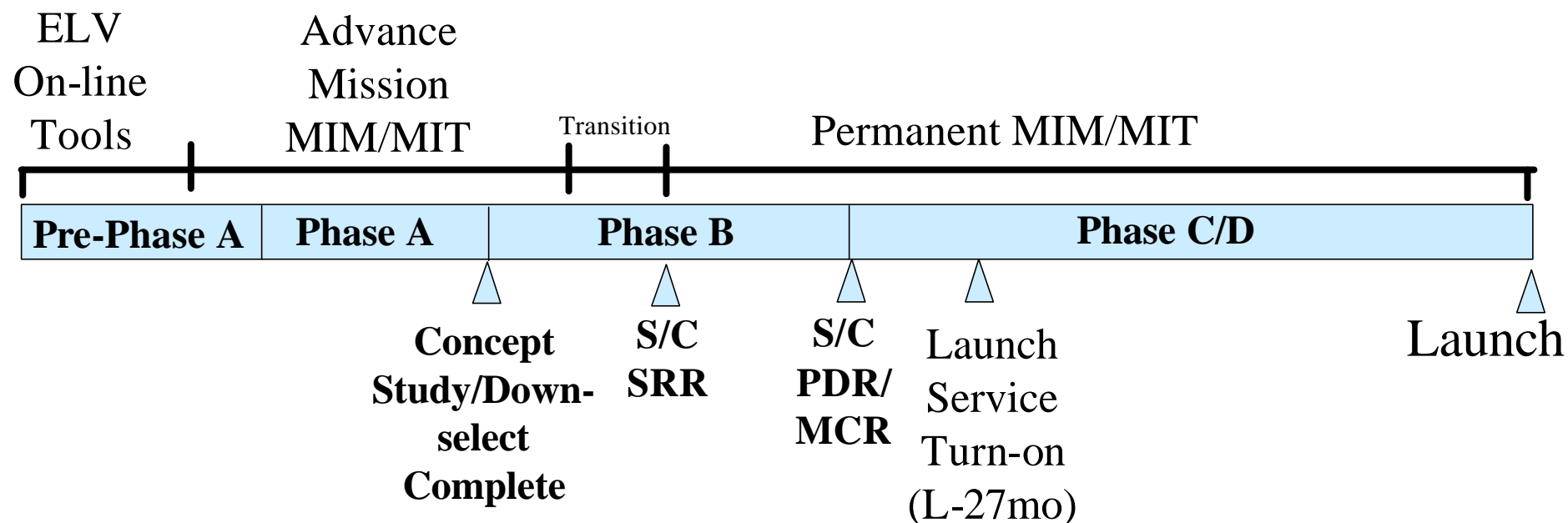
- **Advance Missions Team**
 - Mission Mgmt Office – Lead – Darrell Foster
 - Integration Engineering – Jim Robinson
 - Mission Analysis – Mike Carney
 - Program Integration Office
- **Provide a Focal Point into the ELV Org**
 - Customer Relations and Future Business Development
- **Support to Mission Formulation Team in performing LV trades**
 - Cost & Performance Quotes
 - Directed Missions
 - Potential Missions
 - Agency Initiatives
- **AO development, consultation, and evaluation**
- **Support to Independent Assessment Review Teams**
- **Work with the Launch Service Providers**
 - Future Business
 - Advance Mission Studies
- **Development/maintenance of on-line tools**
 - ELV Performance Web page
 - On-line Planner's Guide



KSC ELV Involvement in Your Mission

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Launch Services Contracts



NASA ELV Contracts

- **KSC Issued Launch Service Contracts**

- SELVS-KSC CONTRACT: Small Expendable Launch Vehicle Services, NAS10-99005
 - Launch Service Contractor: Orbital Sciences Corporation
 - Type of Launch Service: Pegasus XL, Taurus
- SELVS-KSC CONTRACT: Small Expendable Launch Vehicle Services, NAS10-99010
 - Launch Service Contractor: Coleman Research Corporation, Coleman Aerospace Co.
 - Type of Launch Service: LK-0
- NLS CONTRACT: NASA Launch Services (NLS), NAS10-00-001
 - Launch Service Contractor: Delta Launch Services, Inc. (Boeing)
 - Type of Launch Service: Delta II, III, and IV
- NLS CONTRACT: NASA Launch Services (NLS), NAS10-00-060
 - Launch Service Contractor: Lockheed Martin Commercial Launch Services, Inc.
 - Type of Launch Service: Atlas III and V

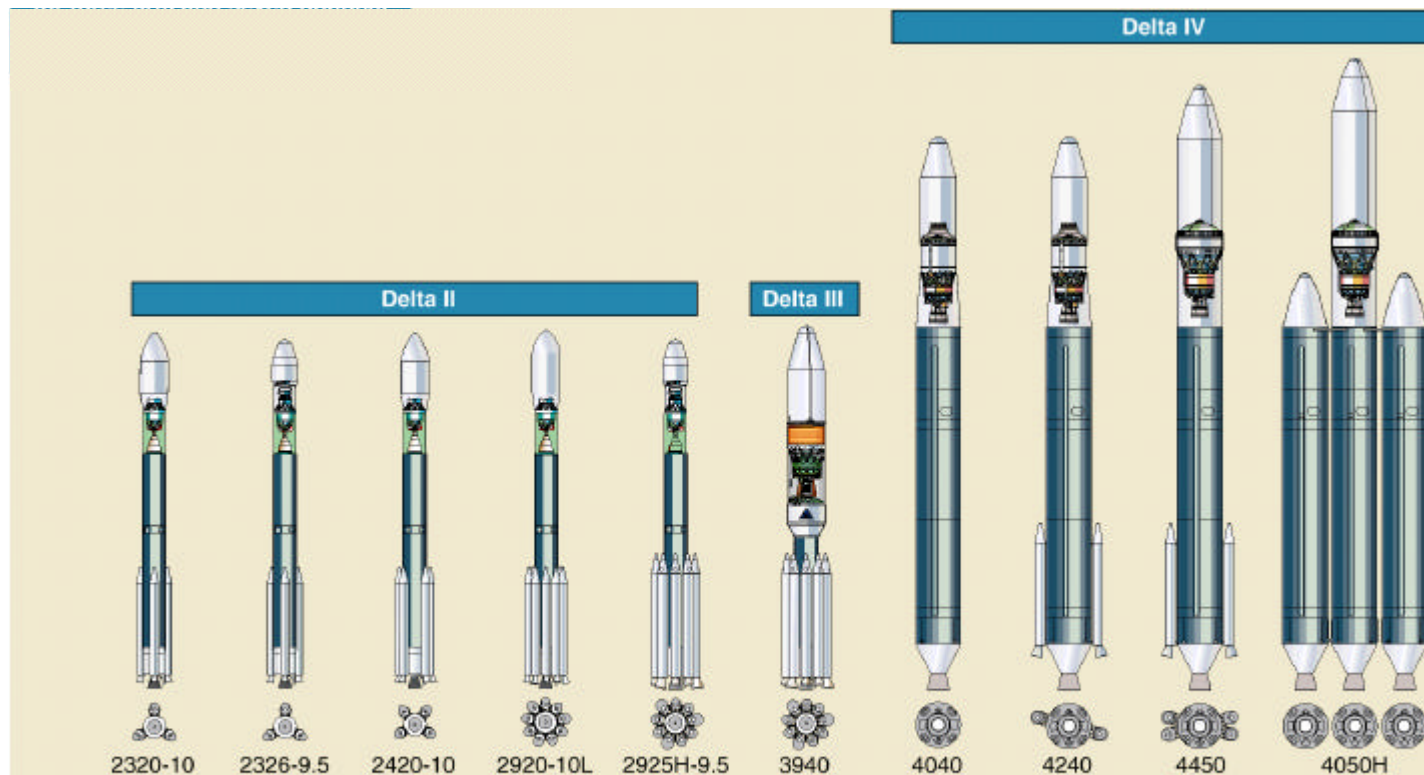


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Boeing Delta Launch Services

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- The Boeing Delta II, Delta III and Delta IV family of launch vehicles are provided by the NASA Launch Services Contract








Lockheed Martin Commercial Launch Services

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- The LMCLS Atlas III and Atlas V family of launch vehicles are provided by the NASA Launch Services Contract

NLS STANDARD LAUNCH VEHICLE CONFIGURATIONS							
Atlas IIIB (Single & Dual Engine Centaur)	Atlas V 401 Atlas V 402	Atlas V 501 Atlas V 502	Atlas V 511 Atlas V 512	Atlas V 521 Atlas V 522	Atlas V 531 Atlas V 532	Atlas V 541 Atlas V 542	Atlas V 551 Atlas V 552
							



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Orbital Sciences Corporation

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Pegasus XL



Taurus





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Launch Services Cost Figures

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Launch Date: December 2006

Launch Site: VAFB (West Coast)

Launch Service	FY'02	FY'03	FY'04	FY'05	FY'06	Total
Taurus	1	7	20	12	7	47
Delta II 2320	1	10	27	26	3	67
Delta II 2326	1	10	29	28	4	72
Delta II 2420	1	10	28	27	3	69
Delta II 2425	1	10	29	28	4	72
Delta II 2920	1	11	30	29	3	74
Delta II 2925	1	11	32	31	4	79



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Launch Services Cost Figures

EXPENDABLE LAUNCH VEHICLES

Launch Date: December 2006

Launch Site: CCAFS (East Coast)

Launch Service	FY'02	FY'03	FY'04	FY'05	FY'06	Total
Taurus	1	8	21	12	7	48
Delta II 2320	1	9	26	25	4	65
Delta II 2326	1	10	28	27	4	69
Delta II 2420	1	9	27	26	4	67
Delta II 2425	1	10	28	27	4	69
Delta II 2920	1	10	28	28	4	71
Delta II 2925	1	11	31	29	4	76
Delta II 2920H*	1	11	31	31	5	79
Delta II 2925H*	1	12	34	32	5	84

* This configuration is only available on the East Coast



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ELV Advance Mission Planning Support

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